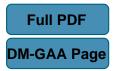
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TRANSFORMATION SEMIGROUPS ASSOCIATED TO Γ -SEMIGROUPS

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Abstract

The concept of Γ -semigroups is a generalization of semigroups. In this paper, we associate two transformation semigroups to a Γ -semigroup and we call them the left and right transformation semigroups. We prove some relationships between the ideals of a Γ -semigroup and the ideals of its left and right transformation semigroups. Finally, we study some relationships between Green's equivalence relations of a Γ -semigroup and its left (right) transformation semigroup.

Keywords: transformation semigroup, Γ -semigroup, Green's relations.

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References

- S.M. Anvariyeh, S. Mirvakili and B. Davvaz, On Γ-hyperideals in Γ-semihypergroups, Carpathian 26 (2010) 11–23.
- [2] R. Chinram and P. Siammai, On Green's relations for Γ-semigroups and reductive Γ-semigroups, Int. J. Algebra 2 (2008) 187–195.
- [3] A.H. Clifford and G.B. Preston, The Algebraic Theory of Semigroups (American Mathematical Society, 1967).

- [4] T.K. Dutta and N.C. Adhikari, On Noetherian Γ-semigroup, Kyungpook Math. J. 36 (1996) 89–95.
- [5] T.K. Dutta and N.C. Adhikary, On Γ-semigroup with right and left unities, Soochow J. of Math 19(4) (1993) 461–474.
- [6] D. Heidari, S.O. Dehkordi and B. Davvaz, Γ-Semihypergroups and their properties, UPB. Sci. Bull. Ser A 72(1) (2010) 197–210.
- [7] D. Heidari and B. Davvaz, Γ-hypergroups and Γ-Semihypergroups associated to binary relations, Iran. J. Sci. Technol. Trans. A Sci. A2 (2011) 69–80.
- [8] J.A. Green, On the structure of semigroups, Annal of Mathematics 54 (1951) 163-172.doi:10.2307/1969317
- [9] N.K. Saha, On Γ-semigroup II, Bull. Cal. Math. Soc. **79** (1987) 331–335.
- [10] M.K. Sen, On Γ-semigroups, in: Int. Conf. on Algebra and it's Appl, Decker Publication (Ed(s)), (New York, 1981).
- [11] M.K. Sen and N.K. Saha, On Γ-semigroup I, Bull. Cal. Math. Soc. 78 (1986) 180–186.
- [12] A. Seth, Γ-group congruences on regular Γ-semigroups, Int. J. Math. Math. Sci. (1992) 103–106.
- [13] M. Siripitukdet and A. Iampan A, On the Ideal Extensions in Γ-semigroups, Kyungpook Math. J. 48 (2008) 585–591. doi:10.5666/KMJ.2008.48.4.585
- [14] M. Siripitukdet and A. Iampan, Least Regular Order with Respect to a Regular Congruence on Ordered Γ-Semigroups, Acta Mathematica Sinica, English Series 28(5) (2012) 975–982. doi:10.1007/s10114-011-9702-x

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